

Eckhart, Jeanne

From: Lane, Willie
Sent: Tuesday, November 08, 2016 4:33 PM
To: Eckhart, Jeanne
Subject: Accepted: Bird Creek - Finalizing Information Request

Eckhart, Jeanne

From: Lane, Willie
Sent: Tuesday, October 18, 2016 4:22 PM
To: Eckhart, Jeanne
Subject: Accepted: Bird Creek Conference Call

Eckhart, Jeanne

From: Louise Red Corn <louise@bighearttimes.com>
Sent: Monday, November 07, 2016 2:55 PM
To: Lane, Willie
Subject: Bird Creek, Pawhuska, Okla

Dear Mr. Lane:

Per our conversation, I am seeking information about a reported saltwater leak in Bird Creek, Osage County, Okla., that is affecting the water supply for the City of Pawhuska and perhaps others.

I am amenable to talk to your press people at any time but Tuesday from about 11-1130. My cell is 918-287-7300 and my office number is 918-847-2916.

My deadline is 5 p.m. Tuesday but I am sure I'll follow up so if no one can comment until after that deadline that is fine.

Thank you very much!

Louise Red Corn

Publisher
The Bigheart Times
PO Box 469
Barnsdall, OK 74002

O: (918) 847-2916
C: (918) 287-7300

Eckhart, Jeanne

From: Sanborn, Kent
Sent: Monday, November 07, 2016 4:17 PM
To: Lane, Willie
Subject: Bird Creek

I have been checking each week the Bird Creek low water crossing about 1 mile north of the Pawhuska water intake. It has never been higher than 200 ppm. I will be checking out the entire creek again Wednesday this week. There was a little rain up there today but I would guess it was less than ½ inch. If I can get in touch with Brody I will field test again the water wells since it has been 2 weeks.

Eckhart, Jeanne

From: Sanborn, Kent
Sent: Thursday, November 03, 2016 2:19 PM
To: Lane, Willie
Subject: Bird Creek inquiry

Valerie from Sen. James Lankford's office called and left a message inquiring about the Bird Creek pollution issue. She requested a call back at (202) 228-1482.

Eckhart, Jeanne

From: Sanborn, Kent
Sent: Monday, October 31, 2016 11:51 AM
To: Eckhart, Jeanne; Wills, Carl; Lister, Chris; Moore, Jessica; Lane, Willie
Subject: Bird Creek Inspection on 10-27-2016

Creek was down to a trickle. Checked at the bridge and found TSS at 70k ppm. Temp on the bottom nearest the bridge was 38 degrees C. (100 degrees F). That is the highest I have seen. At the first bend going south the TSS was 12k ppm and temp was 28 degrees C. Top 6 inch section of water from the bridge to the first bend has a TSS of 1200 ppm and temp of 19 degrees C. Still found that hole at 36.8246, -96.4996 to be nearly 50k ppm. That is where that fresh creek comes in from the west. When you get to the farthest point that I have routinely measured at 36.8164, -96.4943 the water is mixed from top to bottom and is the same across the entire creek. Those values ranged from 8200 when first discovered to 2400 after the big rains to 3200 ppm on the 27th. I did see fish but not on the bottom. Overall I think the total amount of brine has been reduced especially downstream but the increasing temps are a real concern. I wish we could pump out those first few holes to see what was coming in. Also staked the mystery well that is listed on several maps but has no records. Scraping the ground there could answer the question of whether there is a well there.

I'm open to suggestions:

Oh, There are 2 water wells out there. The west house well is 300' deep and had a TSS of 800 ppm. Brody said there test should a lot less but he didn't have it with him.

The east house well is 430' deep and had a TSS of 500 ppm.

I advised him to gather samples and have them retested at OSU

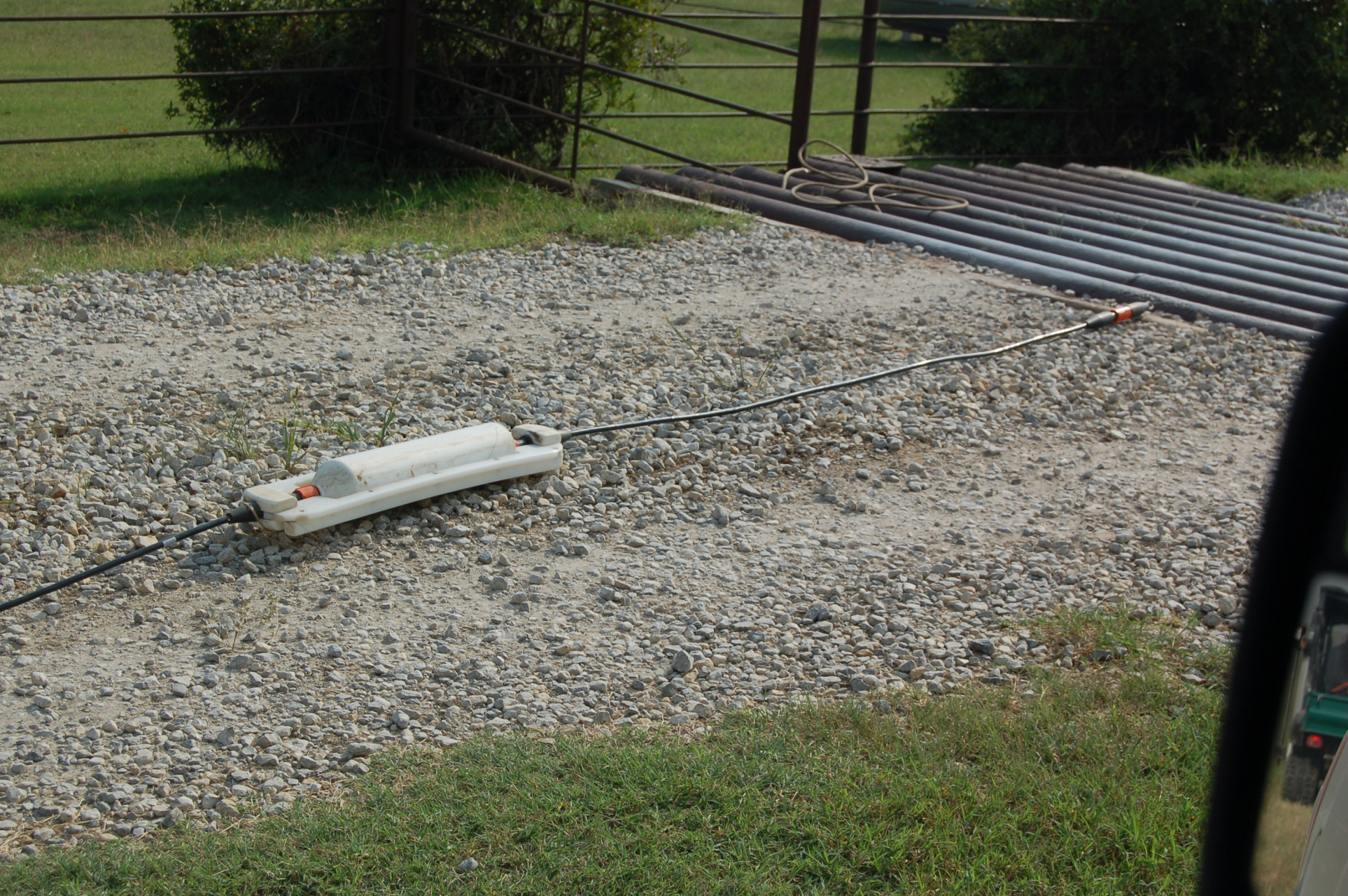












Eckhart, Jeanne

From: Sanborn, Kent
Sent: Tuesday, September 20, 2016 7:49 PM
To: Lister, Chris; Wills, Carl; Lane, Willie
Subject: Bird Creek Photos
Attachments: DSC_0001.JPG; DSC_0002.JPG; DSC_0003.JPG; DSC_0004.JPG; DSC_0005.JPG; DSC_0006.JPG

Eckhart, Jeanne

From: Lane, Willie
Sent: Tuesday, November 08, 2016 9:03 AM
To: Durant, Jennah; Hubbard, Joseph
Cc: Martindale, Cary
Subject: Bird Creek Summary - response to reporter inquiry

First cut a both an expanded summary of the events as they have transpired at Brid Creek. I also took a shot at a short summary paragraph which is at the bottom of the page.

I included Cary also because we had an inquiry from Sen. Lankford's office last week that he is workig.

Eckhart, Jeanne

From: Wills, Carl
Sent: Wednesday, October 12, 2016 5:55 AM
To: Lane, Willie; Sanborn, Kent; Moore, Jessica; Lister, Chris
Subject: Bird Creek Water Sample Results
Attachments: Combined Analytical - Bird Creek Water Samples Final.pdf

Attached are the analytical results of the water samples collected on 10/05/2016. Once I get the data plotted we should have a discussion about the results.

Respectfully,

Carl E. Wills

U.S. Environmental Protection Agency
Compliance Assurance and Enforcement
Water Enforcement Branch (6EN-WR)
1445 Ross Avenue, Suite 1200
Dallas, TX 75202
214-665-7276
fax 214-665-2168
wills.carl@epa.gov
www.epa.gov

Confidentiality Warning:

This email may contain material that is confidential, privileged and/or attorney work product and is for the sole use of the intended recipient. Any review, reliance or distribution by others or forwarding without express permission is strictly prohibited. If you are not the intended recipient, please contact the sender and delete all copies.

Eckhart, Jeanne

From: Sanborn, Kent
Sent: Tuesday, November 08, 2016 1:13 PM
To: Lane, Willie
Subject: Bird Creek

I'll be going through Pawhuska in an hour and will recheck the creek 1 mile north of Pawhuska water plant again just to be sure.

Eckhart, Jeanne

From: Biehl, William "Bill" <WBiehl@BassPet.Com>
Sent: Friday, October 28, 2016 4:38 PM
To: Lane, Willie
Cc: Barry, Colin
Subject: Chapman Ranch

Mr. Lane:

Good afternoon!

I wanted to touch base with you on the Chapman Ranch creek situation. From what I understand, Kent S. from EPA was to the site this week and detected field concentrations around 70,000ppm in the creek and abnormally high temperature levels even after a substantial rain event. There is also concern about the nearby drinking water wells at the ranch houses so we are having them tested again to compare to our initial data from late August (32 mg/l and 103 mg/l) to more recent conditions. Field testing indicates that there is evidence suggesting a substantial increase (upwards of 700 mg/l) in chloride levels in the two ranch house wells, so we are getting those verified by a third party lab. Understandably so, this raises the level of concern one more notch as this problem extends into its 75th day. First it was environmental concerns, then there is the threat to the town of Pawhuska's water supply, and now potential domestic groundwater use.

As from the beginning, it remains our contention that this is an actionable incident and the jurisdiction of US EPA Region 6 since there was a release to surface waters first and now potentially threatening to public and private water supplies. We want to continue make an effort to ensure that this issue is not ignored and that efforts (and actions) are on-going. From what you and Kent have shared, we have a potential historic well somewhere nearby, we have a geophysical anomaly near the suspected "ground-zero" area, we have correlation to formation fluids injected nearby, we have sustained elevated levels of chloride even after a significant storm event, we have surface water temperatures at depth that could relate to subsurface fluid temperature, we have ongoing injection near mapped seismic activity associated with disposal wells, and concerns of migration to domestic groundwater. It would seem to be significant data to encourage a more aggressive approach to this problem.

Any current information on your end that can be shared would be most appreciated.

Respectfully:

Bill Biehl, PG

EH&S Manager

ENVIRONMENTAL PROTECTION AGENCY

OFFICIAL
CHAIN OF CUSTODY RECORD

Customer ID: 1361

| PROJ. NO. | | PROJECT NAME | | | | NO. OF CON- TAINERS | REMARKS | | | | | | | | | | | | | | |
|------------------------------|----------|--------------|-------|------|------------------|------------------------------|---------|---|--|--|--|--|--|---|--|--------------------------|--|--|--|--|--|
| SAMPLERS: (Signature) | | | | | | | | | | | | | | | | | | | | | |
| STA. NO. | DATE | TIME | COMP. | GRAB | STATION LOCATION | | | | | | | | | | | | | | | | |
| 1 | 10/05/16 | 11:02 AM | ✓ | | 1A (Upstream) | 1 | ✓ | | | | | | | | | | | | | | |
| 2 | 10/05/16 | 11:18 AM | ✓ | | 1B (Pool) | 1 | ✓ | | | | | | | | | | | | | | |
| 3 | 10/05/16 | — | ✓ | | 1C (Replicate) | 1 | ✓ | | | | | | | | | | | | | | |
| 4 | 10/05/16 | 12:01 PM | ✓ | | 2 (Fireh TB) | 1 | ✓ | | | | | | | | | | | | | | |
| 5 | 10/05/16 | 12:46 PM | ✓ | | 3 (Grayhorse TB) | 1 | ✓ | | | | | | | | | | | | | | |
| N/A | | | | | | | | | | | | | | | | | | | | | |
| Relinquished by: (Signature) | | | | | | Date / Time | | Received by: (Signature) | | | | | | Date / Time | | Received by: (Signature) | | | | | |
| Relinquished by: (Signature) | | | | | | Date / Time | | Received by: (Signature) | | | | | | Date / Time | | Received by: (Signature) | | | | | |
| Relinquished by: (Signature) | | | | | | Date / Time | | Received for Laboratory by: (Signature) | | | | | | Date / Time | | Remarks | | | | | |
| Shipped by: Drop-off | | | | | | | | Airbill Number: | | | | | | NA Custody Seals Intact? _____ Samples Intact? _____ Samples less than or equal 4 deg C (water) | | | | | | | |

EPA 7500-53
(11/96)Distribution: White Accompanies Shipment; Pink to Coordinator Field Files;
Green to Report; Yellow Returns with Warrant

R6 - 0801

ENVIRONMENTAL PROTECTION AGENCY

OFFICIAL
CHAIN OF CUSTODY RECORD

Customer ID: 1361

| PROJ. NO. | PROJECT NAME | | NO. OF CON- TAINERS | REMARKS | | | | | | | | | |
|------------------------------|------------------|--|------------------------------|---|--|--|-------------|---|--|--|--|--|--|
| SAMPLERS: (Signature) | | | | | | | | | | | | | |
| STA. | STATION LOCATION | | | | | | | | | | | | |
| 1 | 1A (Upstream) | | 1 | <div style="position: relative; height: 100px;"> <div style="position: absolute; top: 0; left: 0; width: 100%; height: 100%; background: repeating-linear-gradient(45deg, transparent, transparent 2px, black 2px, black 4px);"></div> </div> | | | | | | | | | |
| 2 | 1B (Pool) | | 1 | | | | | | | | | | |
| 3 | 1C (Replicate) | | 1 | | | | | | | | | | |
| 4 | 2 (Fireh TB) | | 1 | | | | | | | | | | |
| 5 | 3 (Grayhorse TB) | | 1 | | | | | | | | | | |
| N/A | | | | | | | | | | | | | |
| Relinquished by: (Signature) | | | Date / Time | Received by: (Signature) | | | Date / Time | Received by: (Signature) | | | | | |
| Relinquished by: (Signature) | | | Date / Time | Received by: (Signature) | | | Date / Time | Received by: (Signature) | | | | | |
| Relinquished by: (Signature) | | | Date / Time | Received for Laboratory by: (Signature) | | | Date / Time | Remarks: <u>NA</u> Custody Seals Intact? _____ Samples Intact? _____ Samples less than or equal 4 deg C (water) | | | | | |
| Shipped by: <u>Drop-off</u> | | | Airbill Number: | | | | | | | | | | |

EPA 7500-53
(11/96)Distribution: White Accompanies Shipment; Pink to Coordinator Field Files;
Green to Report; Yellow Returns with Warrant

R6 - 0801

Eckhart, Jeanne

From: Wills, Carl
Sent: Thursday, October 06, 2016 10:26 AM
To: Sanborn, Kent
Cc: Lane, Willie
Subject: C-of-C for Bird Creek Samples
Attachments: C-of-C Bird Creek 10-06-2016.pdf

Kent,

Please check for accuracy and follow the instructions on the second page. Please scan and return to me. I'll forward to Barbara McCray. Thanks...if you need anything else or require additional information, please don't hesitate to contact me.

Respectfully,

Carl E. Wills

U.S. Environmental Protection Agency
Compliance Assurance and Enforcement
Water Enforcement Branch (6EN-WR)
1445 Ross Avenue, Suite 1200
Dallas, TX 75202
214-665-7276
fax 214-665-2168
wills.carl@epa.gov
www.epa.gov

Confidentiality Warning:

This email may contain material that is confidential, privileged and/or attorney work product and is for the sole use of the intended recipient. Any review, reliance or distribution by others or forwarding without express permission is strictly prohibited. If you are not the intended recipient, please contact the sender and delete all copies.

Eckhart, Jeanne

From: Lane, Willie
Sent: Monday, November 07, 2016 4:01 PM
To: Martindale, Cary
Subject: FW: Bird Creek inquiry

Cary did you ever get any response from the senator's office? I had a reporter and the Environmental director from the Osage Nation contact me today also. I sent the reporter enquiry over to Joe and Jennah.

From: Sanborn, Kent
Sent: Thursday, November 03, 2016 2:19 PM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: Bird Creek inquiry

Valerie from Sen. James Lankford's office called and left a message inquiring about the Bird Creek pollution issue. She requested a call back at (202) 228-1482.

Eckhart, Jeanne

From: Sanborn, Kent
Sent: Thursday, September 22, 2016 8:35 AM
To: Lane, Willie
Subject: FW: Brine spill on North Bird Creek

Willie did Chris and Carl come up with anything on their trip to Bird Creek.?

From: Bersche, Mark D. [mailto:Mark.Bersche@deq.ok.gov]
Sent: Wednesday, September 21, 2016 4:30 PM
To: Sanborn, Kent <Sanborn.Kent@epa.gov>
Cc: Bill Bruce (william539@SBCglobal.net) <william539@SBCglobal.net>; Mike McCartney - Town of Pawhuska (mmccartney@pawhuska.org) <mmccartney@pawhuska.org>
Subject: Brine spill on North Bird Creek

Hello Kent,
Any update on the injection well integrity test and/or movement of the brine further downstream?
Thanks
Mark

Soil, Water & Forage Analytical Laboratory Testing Services and Price List

Oklahoma State University
048 Agricultural Hall
Stillwater, OK 74078
Phone: (405) 744-6630
Fax: (405) 744-9575

Email: soiltesting@okstate.edu

Prices Effective Jan 1, 2014

Soil Property Analyses

Soil Fertility

| | |
|---|----------------|
| Routine Analysis | \$10.00 |
| pH (1:1), Lime Requirement (Sikora), NO ₃ -N, Soil Test P & K (Mehlich 3) | |
| Subsoil Nitrate-N | \$2.00 |
| (with the submission of Surface Soil) | |
| Nitrate-N or Ammonium-N | \$4.00 |
| NO ₃ -N or NH ₄ -N (1M KCl) | |
| Nitrate-N and Ammonium-N | \$5.00 |
| NO ₃ -N or NH ₄ -N (1M KCl) | |
| Secondary Nutrients | \$4.00 |
| Mg, Ca (M3), and SO ₄ (0.008M Calcium Phosphate) | |
| Micronutrients | \$4.00 |
| Fe, Zn, B and Cu (DTPA – Sorbitol) | |

Soil Salinity

| | |
|---|----------------|
| Salinity Management | \$15.00 |
| (1:1 Soil to water Extraction) - Na, Ca, Mg, K, B, EC, TSS (Total Soluble Salts), SAR, ESP, pH | |
| Comprehensive Salinity | \$40.00 |
| (Saturated Paste Extraction) Na, Ca, Mg, K, B, EC, TSS, SAR, ESP, pH, Cl ⁻ , CO ₃ ⁼ , HCO ₃ ⁼ , NO ₃ -N, SO ₄ ⁼ | |

Soil Texture

Textural Class (Hydrometer) **\$10.00**

Soil Organic Matter & Nitrogen

Organic Matter **\$8.00**

Total Nitrogen **\$8.00**

TN% (LECO)

Organic Carbon & Total Nitrogen **\$8.00**

OC% and TN% (LECO)

Greenhouse Root Media Analyses

Greenhouse Media **\$20.00**

(Saturated Media Extraction) Na, Ca, Mg, K, P,
S, B, EC, pH, NO₃-N, NH₄-N

Greenhouse Media Plus **\$30.00**

(DTPA Saturated Media Extraction) Na, Ca, Mg, K,
P, S, B, EC, pH, NO₃-N, NH₄-N Plus Fe, Cu, and Zn

Water Quality Analysis

Livestock Water **\$15.00**

Na, Ca, Mg, K, Fe, Zn, Cu, Mn, EC, pH, NO₃-N, Cl⁻,
SO₄⁼, TSS (Total Soluble Salts), and Hardness

Household Water **\$15.00**

Na, Ca, Mg, K, Fe, Zn, Cu, Mn, EC, pH, NO₃-N, Cl⁻,
SO₄⁼, TSS (Total Soluble Salts), and Hardness

Irrigation Water **\$15.00**

Na, Ca, Mg, K, B, EC, pH, NO₃-N, Cl⁻, SO₄⁼, CO₃⁼,
HCO₃⁼, SAR, TSS, and Hardness

Nitrate-N or Ammonium-N **\$3.00**

Nitrate-N and Ammonium-N **\$4.00**

Ortho-P or Total Dissolved P (TDP) **\$3.00**

Ortho-P (Colorimetric) or TDP (ICP)

Miscellaneous Charges

| | |
|-----------------------|--------|
| Faxing Results | \$1.00 |
| Chain of Custody Form | \$1.00 |
| Forage Sample Bags | \$0.25 |

Forage Quality Analyses

Nitrate Toxicity **\$6.00**

Nitrate and Moisture

Basic Analysis **\$8.00**

Protein (Dry Combustion – LECO) and Moisture

Basic Plus Energy **\$14.00**

Protein and Moisture, ADF (Acid Detergent Fiber),
TDN, Net Energy for Gain, Lactation, Maintenance

Basic Plus Energy Plus RFV **\$20.00**

Protein and Moisture, ADF, TDN, Energy,
NDF (Neutral Detergent Fiber) and
RFV (Relative Feed Value for Alfalfa only)

Plant Tissue Sample Analyses

Plant Tissue Analysis **\$20.00**

TN, P, K, Ca, Mg, S, B, Cu, Fe, Mn and Zn

Feed & Grain Sample Analyses

TN or C or Both **\$8.00**

Total Nitrogen and Carbon (Dry Combustion – LECO)

Minerals **\$12.00**

Ca, P, Mg, K, S, Cu, Fe, Zn, Mn and Moisture

Animal Waste Analyses

Test 1 **Liquid - \$25.00**

pH, EC, Moisture, TN, TC, **Others- \$20.00**

S, P, K, Ca, Mg, Na, Cu, Zn, Mn, and Fe

Test 2 **\$6.00**

NH₄-N and NO₃-N

Test 3 **\$8.00**

Water Soluble P

Other Tests May Be Available Upon Request

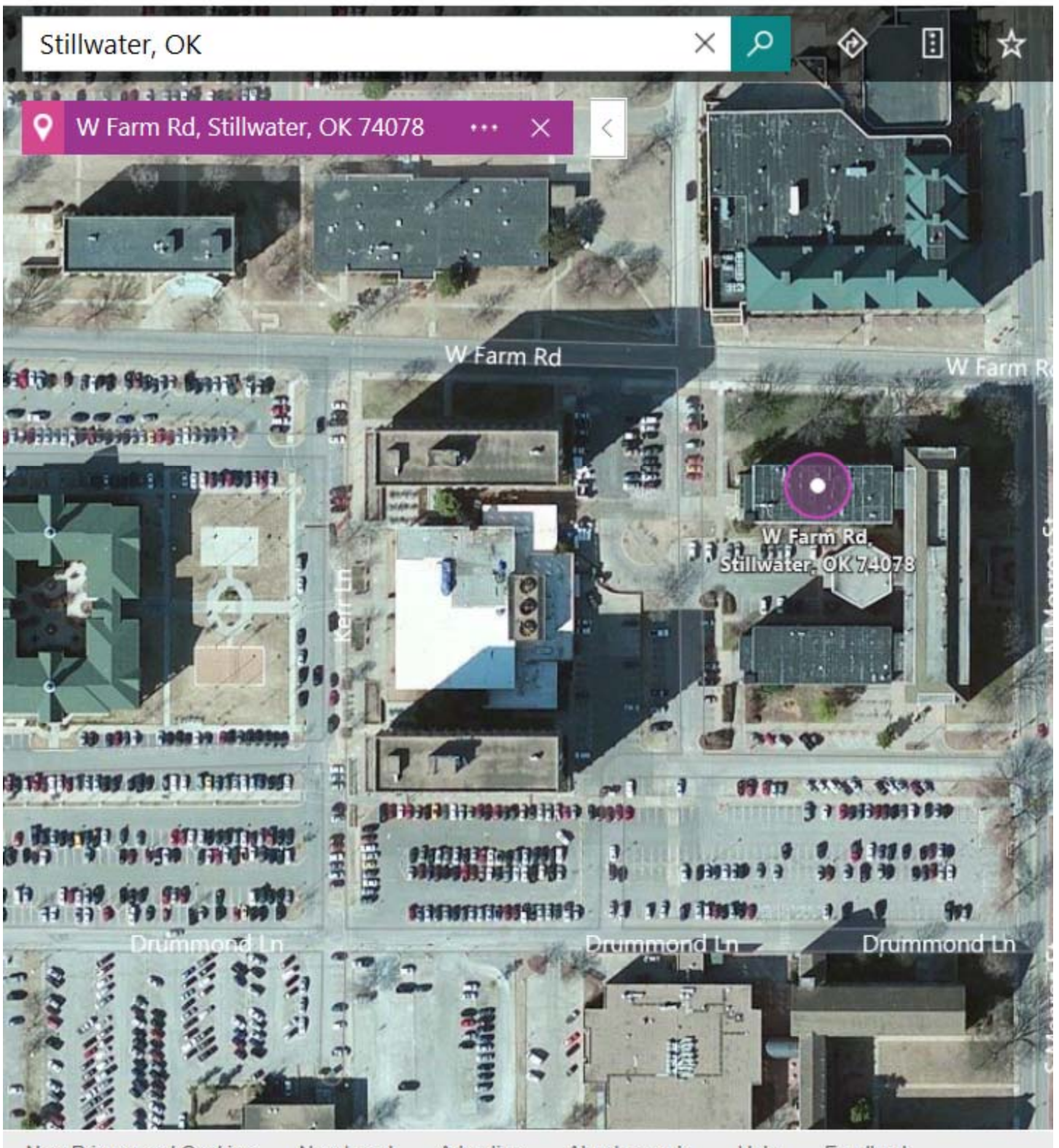
www.soiltesting.okstate.edu

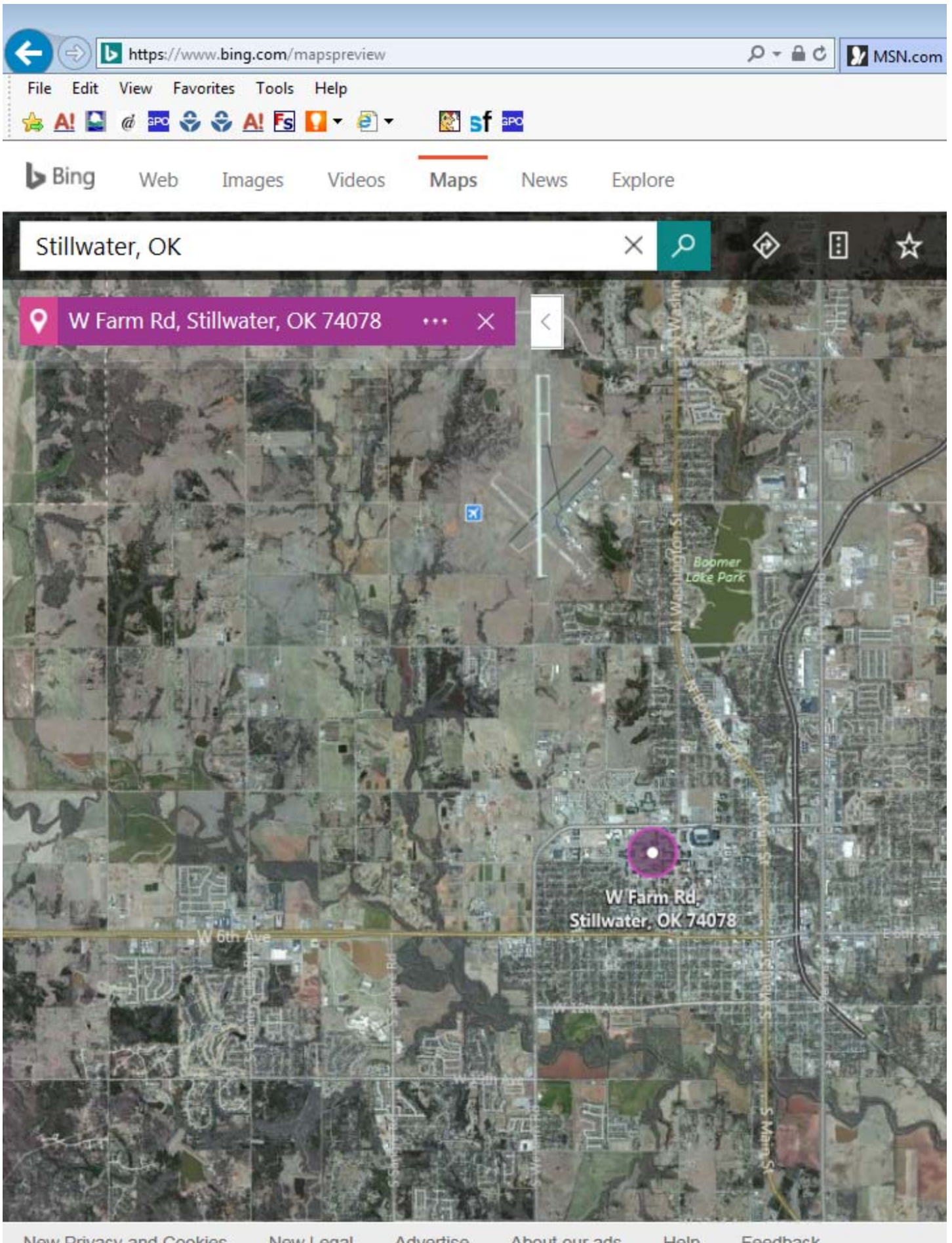
Eckhart, Jeanne

From: Wills, Carl
Sent: Tuesday, October 04, 2016 8:52 AM
To: Sanborn, Kent; Lane, Willie
Cc: Lister, Chris
Subject: FW: OSU Lab for Bird Creek Water Samples
Attachments: Brochure - Price list and testing services January 1, 2014 (Current as of 10-03-2016).pdf

Kent,

Below is a screenshot of the lab. It is located in the basement of the north building on the southwest corner of West Farm Road and North Monroe Steet. Contact Barbara McCray, see her information below on the G&S request. If you have any questions, please don't hesitate to contact us.





From: Carl Wills [mailto:Wills.Carl@epamail.epa.gov]
Sent: Monday, October 03, 2016 8:49 AM
To: Wills, Carl <Wills.Carl@epa.gov>
Subject: OSU Lab for Bird Creek Water Samples

Dear User

An email was sent to you from Lotus Domino containing special objects accessible only via Lotus Notes Client. The portion of the email that could be sent is included below.

If this is the first time you have received this type of message, [Click Here](#) for database access.

To access the original email with Lotus Notes please click this link -----> 

FYI!

----- Forwarded by Carl Wills/R6/USEPA/US on 10/03/2016 08:45 AM -----

| |
|--|
| USEPA Region 6 Request for Goods and Services |
|--|

| |
|---|
| Category 3: Health & Safety Assessments, Health & Safety/Ergonomic Accessories, Office Equipment, Office Supplies, Workstation Reconfiguration |
|---|

| | |
|-----------------------------------|--------------------------------------|
| Created By: Carl Wills | Tracking Number: CWIS-AEDHYX |
| Requestor: Carl Wills/R6/USEPA/US | Date of Request: 10/03/2016 08:37 AM |
| Mail Code: 6EN-WC | Desired Delivery Date: 10/05/2016 |
| Phone Number: 214.665.7276 | |
| Office/Cube Number: 13.078 | |

Source of Supply and Cost Estimate
(Fill in All Blocks)

| | |
|---|--|
| Vendor Name: OSU - SWFAL | Phone Number: (405) 744-6630 - Barbara McCray |
| Vendor Physical Address: O48 Agricultural Hall, Stillwater, OK 74078 | |
| Vendor Web Address: www.soiltesting.okstate.edu | |

| Description of Goods and Services | Quantity | Cost/Each | | Extension (Calculated) |
|-----------------------------------|----------|-----------|---|------------------------|
| Irrigation Water - Analysis | 4 | 15.00 | . | \$ 60.00 |
| | 0 | 0.00 | | \$ 0.00 |
| | 0 | 0.00 | | \$ 0.00 |
| | 0 | 0.00 | | \$ 0.00 |
| | 0 | 0.00 | | \$ 0.00 |
| | 0 | 0.00 | | \$ 0.00 |
| | 0 | 0.00 | | \$ 0.00 |
| | 0 | 0.00 | | \$ 0.00 |
| | 0 | 0.00 | | \$ 0.00 |
| | 0 | 0.00 | | \$ 0.00 |

| | | | | |
|--|---|------|--------------|----------|
| | 0 | 0.00 | | \$ 0.00 |
| | | | Total | \$ 60.00 |

Justification

(Show need and what the item or service is to be used for)

Justification: These analyses are needed to create piper and/or stiff diagrams to evaluate possible water sources of brine in Bird Creek (Osage County, OK).

Attachments:

(See attached file: Brochure - Price list and testing services January 1, 2014 (Current as of 10-03-2016).pdf)

Branch Chief Approver: Jerry Saunders/R6/USEPA/US

Branch Chief Approver Comments:

PA/AO Approver: Lisa Ruhl/R6/USEPA/US

PA/AO Approver Comments:

Approval Process Notes:

Eckhart, Jeanne

From: Lane, Willie
Sent: Thursday, November 17, 2016 12:24 PM
To: Sanborn, Kent
Subject: Fwd: Accepted: Conference Call for Update on Bird Creek Contamination
Attachments: mime-attachment.ics; ATT00001.htm

Sent from my iPhone

Begin forwarded message:

From: Beverly LaCrone <blacrone@osagenation-nsn.gov>
Date: November 17, 2016 at 11:42:57 AM CST
To: "Lane, Willie" <Lane.Willie@epa.gov>
Subject: Accepted: Conference Call for Update on Bird Creek Contamination

Eckhart, Jeanne

From: Lane, Willie
Sent: Monday, November 07, 2016 3:44 PM
To: Durant, Jennah; Hubbard, Joseph
Subject: Fwd: Bird Creek, Pawhuska, Okla

Inquiry I stopped by about.

Sent from my iPhone

Begin forwarded message:

From: Louise Red Corn <louise@bighearttimes.com>
Date: November 7, 2016 at 2:55:16 PM CST
To: <lane.willie@epa.gov>
Subject: Bird Creek, Pawhuska, Okla

Dear Mr. Lane:

Per our conversation, I am seeking information about a reported saltwater leak in Bird Creek, Osage County, Okla., that is affecting the water supply for the City of Pawhuska and perhaps others.

I am amenable to talk to your press people at any time but Tuesday from about 11-1130. My cell is 918-287-7300 and my office number is 918-847-2916.

My deadline is 5 p.m. Tuesday but I am sure I'll follow up so if no one can comment until after that deadline that is fine.

Thank you very much!

Louise Red Corn

Publisher
The Bigheart Times
PO Box 469
Barnsdall, OK 74002

O: (918) 847-2916
C: (918) 287-7300

Eckhart, Jeanne

From: Lane, Willie
Sent: Monday, November 07, 2016 4:04 PM
To: 'Louise Redcorn'
Subject: RE: Bird Creek, Pawhuska, Okla

Yes I did receive your email. I have forwarded it to our External Affairs office and you should be contacted.

From: Louise Redcorn [mailto:louise@bighearttimes.com]
Sent: Monday, November 07, 2016 3:57 PM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: Fwd: Bird Creek, Pawhuska, Okla

Dear Mr. Lane:

Sorry if this is repetitive. I had a computer crash and the DEQ did not get an email from me that I sent at the same general time I sent this to you, so I'm resending just in case.

Louise Red Corn

From: Louise Red Corn <louise@bighearttimes.com>
Subject: Bird Creek, Pawhuska, Okla
Date: November 7, 2016 at 2:55:16 PM CST
To: lane.willie@epa.gov

Dear Mr. Lane:

Per our conversation, I am seeking information about a reported saltwater leak in Bird Creek, Osage County, Okla., that is affecting the water supply for the City of Pawhuska and perhaps others.

I am amenable to talk to your press people at any time but Tuesday from about 11-1130. My cell is 918-287-7300 and my office number is 918-847-2916.

My deadline is 5 p.m. Tuesday but I am sure I'll follow up so if no one can comment until after that deadline that is fine.

Thank you very much!

Louise Red Corn

Publisher
The Bigheart Times
PO Box 469
Barnsdall, OK 74002

O: (918) 847-2916

C: (918) 287-7300

Eckhart, Jeanne

From: Lane, Willie
Sent: Monday, November 07, 2016 8:54 AM
To: Sanborn, Kent
Subject: RE: Bird Creek

I spoke to him on Thursday. He had been trying unsuccessfully to reach you and called me. He was concerned about the water wells and the elevated TDS seen in them. They were still waiting for sample results. I may want you to see about getting a sample of the wells and getting it to OK State lab for same analysis we ran on creek and UIC wells. Need to get approvals here first.

From: Sanborn, Kent
Sent: Monday, November 07, 2016 8:39 AM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: FW: Bird Creek

From: Eckhart, Jeanne
Sent: Monday, November 07, 2016 8:33 AM
To: Sanborn, Kent <Sanborn.Kent@epa.gov>
Subject: RE: Bird Creek

No, I'm not officially the lead right now. I think you inform Willie at this time.

From: Sanborn, Kent
Sent: Monday, November 07, 2016 8:29 AM
To: Eckhart, Jeanne <Eckhart.Jeanne@epa.gov>
Subject: Bird Creek

Are you officially the lead on the Bird Creek project.? If so RD Farr would like a call back. I believe you have his number.

Eckhart, Jeanne

From: Lane, Willie
Sent: Tuesday, November 08, 2016 12:19 PM
To: Durant, Jennah
Subject: RE: Bird Creek contamination, Osage County, OK

Just spoke with ODEQ. There is no new information driving the City's action to divert their intake. According to ODEQ, the City in an abundance of caution decided to activate their other water source when this first came up. It did take a bit of lead time to do some maintenance on pumps and valves to assure proper operations so they decided to utilize the option of the alternate source for now.

-----Original Message-----

From: Durant, Jennah
Sent: Tuesday, November 08, 2016 10:52 AM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: RE: Bird Creek contamination, Osage County, OK

OK, I will wait to send the statement to David until I hear back from you about this.

-----Original Message-----

From: Lane, Willie
Sent: Tuesday, November 08, 2016 10:50 AM
To: Durant, Jennah <Durant.Jennah@epa.gov>
Subject: FW: Bird Creek contamination, Osage County, OK

Just got this fro the same reporter. It seems that the City did take an action to switch their intake from the creek. I am not aware of any specific information that would have caused them to initiate this action. Let me contact the ODEQ to see if they know>

-----Original Message-----

From: Louise Red Corn [mailto:louise@bighearttimes.com]
Sent: Tuesday, November 08, 2016 10:44 AM
To: robin.phillips@bia.gov; Hatfield, Erin E. <erin.hatfield@deq.ok.gov>; Lane, Willie <Lane.Willie@epa.gov>; Nedra_Darling@ios.doi.gov
Cc: Louise Red Corn <louise@bighearttimes.com>
Subject: Bird Creek contamination, Osage County, OK

To:
Robin Phillips, Superintendent, Osage Agency, BIA Nedra Darling, Department of Interior Willie Lane, EPA Region 6 Erin Hatfield , OK DEQ

Dear Officials:

The Bigheart Times is publishing an article tomorrow about salt water contamination in North Bird Creek, upstream of the City of Pawhuska, which relies on Bird Creek for its water supply. The city this week changed its water intake from Bird to Clear creek to avoid introducing contaminated water into the public water supply.

The Bigheart Times has thus far been unsuccessful at eliciting much response from the regulatory agencies involved. The DEQ is the only public agency that has substantively responded but it is withholding its Complaint Record from the public because the investigation is ongoing almost three months after a fish and turtle kill was reported on Aug. 14.

The newspaper poses these questions in the hope of getting a written response from any one or all of you:

What is the exact location, in coordinates, of the salt water contamination on North Bird Creek on El Coyote Ranch?

What is being done to mitigate the contamination?

How much salt water was found in the area?

Has the water been tested to determine its origin? If so, what did those tests reveal?

What is the concentration of salt in the water and what is the temperature of the water at the bottom of the pool or creek? We understand the temperature was measured at 100 degrees on a day when the high was in the mid-70s.

How many fish, turtles and other wildlife were killed? Have any mammal deaths been reported?

Why was the contaminated water not cleaned up before rain drove it downstream in early October?

Why was the City of Pawhuska not informed about the contamination when it uses Bird Creek for its public water supply?

Should the city be concerned, or is it being overly cautious by changing its intake for the public water supply from Bird to Clear creek?

What is the suspected cause of the contamination?

How many underground injection wells are there within a mile of the contaminated spot?

Who operates those wells?

Is there any evidence that the contamination was due to illegal dumping? If so, what is that evidence?

Thank you very much,

Louise Red Corn

Publisher
The Bigheart Times
PO Box 469
Barnsdall, OK 74002

O: (918) 847-2916
C: (918) 287-7300

iv>Barnsdall, OK 74002

O: (918) 847-2916

C: (918) 287-7300

Eckhart, Jeanne

From: Lane, Willie
Sent: Tuesday, November 08, 2016 12:21 PM
To: Eckhart, Jeanne; Wills, Carl; Lister, Chris; Chang-Vaughan, Ellen; Moore, Jessica; Sanborn, Kent
Subject: RE: Bird Creek Information Continued Gathering - Action Items

We need to finalize information we want from facilities and get information requests out as soon as possible.

From: Eckhart, Jeanne
Sent: Tuesday, November 08, 2016 9:15 AM
To: Wills, Carl <Wills.Carl@epa.gov>; Lister, Chris <Lister.Chris@epa.gov>; Chang-Vaughan, Ellen <Chang-Vaughan.Ellen@epa.gov>; Moore, Jessica <Moore.Jessica@epa.gov>; Sanborn, Kent <Sanborn.Kent@epa.gov>
Cc: Lane, Willie <Lane.Willie@epa.gov>
Subject: RE: Bird Creek Information Continued Gathering - Action Items

Good morning all,

I wanted to check back on this and see if we wanted to set another meeting next week to discuss the action items below. Please let me know if that works for you and what day next week would be best.

Thank you,

Jeanne Eckhart
Environmental Scientist
Water Resources Section, Enforcement Division
Region 6, U.S. EPA
Office: (214) 665 – 8174
Fax: (214) 665 – 2168

From: Eckhart, Jeanne
Sent: Thursday, November 03, 2016 1:22 PM
To: Wills, Carl <wills.carl@epa.gov>; Lister, Chris <Lister.Chris@epa.gov>; Chang-Vaughan, Ellen <Chang-Vaughan.Ellen@epa.gov>; Jessica Moore (<Moore.Jessica@epa.gov> <Moore.Jessica@epa.gov>; Sanborn, Kent <Sanborn.Kent@epa.gov>
Cc: Lane, Willie <Lane.Willie@epa.gov>
Subject: Bird Creek Information Continued Gathering - Action Items

All,

Since there are many people involved on Bird Creek, here is a list of action items discussed in the meeting (as requested):

Action Items:

- Plot all injection wells, so we can see where they all are in the area
 - Chris mentioned previously he would be doing this

- Verify information that we have on injection wells in area from what is in permits, including the files and discussions with permitting
 - If there is information we need and permits doesn't have, we need to identify that information
 - **Jessica** can initiate this process (if there's a meeting with Permits, please let us know)
- Is heat a pollutant under the CWA?
 - **Ellen** will investigate
- Previous SDWA-UIC information requests
 - **Jessica** reaching out to other regions to see if they have done one previously
- Geological cross section of the area
 - **Jessica** – Please let us know if you need assistance in getting this information
- BIA – Where is the (b) Well located from (b) (5)
 - **Jessica** mentioned she could assist in getting this information
- BIA – what information do we want to request from them regarding production wells?
 - **Decide** what information we may need
 - **Decide** who's requesting/how we are getting that information
- Continue monitoring the site
 - **Kent**
- Water sample analysis from the two nearby groundwater wells
 - **Kent and Carl** (please keep us all informed on when the results come in)

Consensus at the meeting was that we will work through these items and have another meeting to assess if additional information is needed. Attached is a rough draft of information that Carl has put together that we may to request, depending on what our action items above produce.

Please let me know if you have any questions.

Thanks,

Jeanne Eckhart
 Environmental Scientist
 Water Resources Section, Enforcement Division
 Region 6, U.S. EPA
 Office: (214) 665 – 8174
 Fax: (214) 665 – 2168

Eckhart, Jeanne

From: Martindale, Cary
Sent: Tuesday, November 08, 2016 6:18 AM
To: Lane, Willie
Subject: RE: Bird Creek inquiry

She called back Thursday after I left, so I called her Friday and have not heard back.

Thanks,
Cary

From: Lane, Willie
Sent: Monday, November 07, 2016 4:01 PM
To: Martindale, Cary <martindale.cary@epa.gov>
Subject: FW: Bird Creek inquiry

Cary did you ever get any response from the senator's office? I had a reporter and the Environmental director from the Osage Nation contact me today also. I sent the reporter enquiry over to Joe and Jennah.

From: Sanborn, Kent
Sent: Thursday, November 03, 2016 2:19 PM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: Bird Creek inquiry

Valerie from Sen. James Lankford's office called and left a message inquiring about the Bird Creek pollution issue. She requested a call back at (202) 228-1482.

Eckhart, Jeanne

From: Eckhart, Jeanne
Sent: Wednesday, November 02, 2016 7:42 AM
To: Lane, Willie
Subject: RE: Bird Creek Inspections (Osage County) Strategy Meeting

Willie,

Excuse the short notice on this meeting, let me know when's best to reschedule this. Do you think next week might be easier after the case development training?

Thanks,

Jeanne Eckhart
Environmental Scientist
Water Resources Section, Enforcement Division
Region 6, U.S. EPA
Office: (214) 665 – 8174
Fax: (214) 665 – 2168

-----Original Appointment-----

From: Lane, Willie
Sent: Tuesday, November 01, 2016 6:53 PM
To: Eckhart, Jeanne
Subject: Declined: Bird Creek Inspections (Osage County) Strategy Meeting
When: Thursday, November 03, 2016 11:00 AM-12:00 PM (UTC-06:00) Central Time (US & Canada).
Where: R6-ConfRm-HoustonToad-09B02/R6---09th-Floor

On or about August 17, 2016, EPA inspector Kent Sanborn was contacted by BIA concerning a possible produced water incident along North Bird Creek in Osage County, OK. The inspector responded to the call and conducted a preliminary surveillance inspection by observing the area and taking field measurements. The stream was dry above a bridge/culvert and there were pools of water on the downstream side of the bridge/culvert. Field measurements taken in the pools showed that the Total Soluble Salts (TSS) as measured using a conductivity meter were significantly elevated (80,000 ppm) relative to expected background measurements (400 ppm). Initially one theory for how the high TSS material could have gotten into the stream was by a dumping incident. The EPA continued to monitor the stream to see if the values reduced over time and on one return the stream level had dropped and some oil staining could be seen along the banks. BIA and EPA also monitored the TSS values in the stream for a distance of about five miles downstream. Values were elevated, but were greatly reduced from the values at the suspected point of entry. The City of Pawhuska operates a drinking water withdrawal on the creek some 15 miles downstream of the TSS source location. The City and ODEQ have been notified of this concern.

Although the dumping theory was still the most logical other sources could not be ruled out. EPA conducted a sub-surface electro-magnetic survey using an ohm-Mapper device that can detect changes in electronic resistivity in the subsurface soils. A number of survey lines were run during the two-day survey. One possible anomaly was identified and we are continuing to evaluate the data.

On October 4, 2016, EPA representatives from the Dallas office visited the site along with the field inspector. During this visit samples were collected from both the stream and two nearby wells which operate as Underground Injection Control (UIC) wells. Results of these samples showed that there was a very high degree of correlation between the water from the creek and the produced water from these two wells. During this evaluation it was also noted that the temperature profile in the creek showed that temperatures in the bottom 4-6 inches of the pools was generally over 90 °F. Near surface temperatures were an expected 70°F.

Only a few days after the sampling event heavy rains in the watershed resulted in a flushing of the creek. EPA continued to monitor the TSS values at the creek and found that days after the flushing event the values in the creek were elevated to a lesser degree, but were still very high (70,000 ppm). This evidence eliminated a dumping event as the source of the high TSS water. Indications observed including the rebound high TSS, the temperature anomaly, and the high correlation with produced water in the area shifted the focus of the investigation to a subsurface source entering the creek through some unknown pathway.

The most recent development is an indication that two private water wells in the immediate vicinity may be seeing elevated levels of TSS. The owner has collected sample are we are currently waiting on those results.

Short version-

On or about August 17, 20016, EPA was alerted by BIA of elevated levels of Total Soluble Salts (TSS) in an upper tributary of Bird Creek. EPA has been monitoring the TSS levels in the creek and has collected water samples in an effort to help identify the source of the high TSS water. Although it was believed

early on that this may have been a one-time dumping event subsequent information has shifted the focus to some previously unknown subsurface pathway associated with possible contamination associated with produced water from nearby oil field operations. EPA continues to monitor the stream for any possible impacts to downstream users. ODEQ was notified due to potential impacts to the City of Pawhuska water supply approximately 15 miles downstream. EPA is actively working to identify the source and pathway of the contamination.

Eckhart, Jeanne

From: Lane, Willie
Sent: Tuesday, November 08, 2016 9:58 AM
To: Durant, Jennah
Cc: Martindale, Cary
Subject: RE: Bird Creek Summary - response to reporter inquiry

No there have been no impacts that we are aware of to the City of Pawhuska. It gets diluted by several tributaries before it gets to them.

Working with BIA and ODEQ, although they have pulled back and they are letting us take the lead.

From: Durant, Jennah
Sent: Tuesday, November 08, 2016 9:42 AM
To: Lane, Willie <Lane.Willie@epa.gov>
Cc: Martindale, Cary <martindale.cary@epa.gov>
Subject: RE: Bird Creek Summary - response to reporter inquiry

Thanks! Has Pawhuska's PWS had any impacts? Are we working with any other agencies?

From: Lane, Willie
Sent: Tuesday, November 08, 2016 9:32 AM
To: Durant, Jennah <Durant.Jennah@epa.gov>
Cc: Martindale, Cary <martindale.cary@epa.gov>
Subject: RE: Bird Creek Summary - response to reporter inquiry

Oops!! Here is attachment

From: Durant, Jennah
Sent: Tuesday, November 08, 2016 9:07 AM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: RE: Bird Creek Summary - response to reporter inquiry

Did you include an attachment? I don't see it.

From: Lane, Willie
Sent: Tuesday, November 08, 2016 9:03 AM
To: Durant, Jennah <Durant.Jennah@epa.gov>; Hubbard, Joseph <Hubbard.Joseph@epa.gov>
Cc: Martindale, Cary <martindale.cary@epa.gov>
Subject: Bird Creek Summary - response to reporter inquiry

First cut a both an expanded summary of the events as they have transpired at Brid Creek. I also took a shot at a short summary paragraph which is at the bottom of the page.

I included Cary also because we had an inquiry from Sen. Lankford's office last week that he is working.

Eckhart, Jeanne

From: Sanborn, Kent
Sent: Monday, November 07, 2016 9:04 AM
To: Lane, Willie
Subject: RE: Bird Creek

I'm still waiting for them (Farr) to produce the original tests he said they ran on the water wells when this first started. Brody Wallace said he had them but so far he hasn't produced them. I've got sample bottles in Tulsa I can use if you give the word.

From: Lane, Willie
Sent: Monday, November 07, 2016 8:54 AM
To: Sanborn, Kent <Sanborn.Kent@epa.gov>
Subject: RE: Bird Creek

I spoke to him on Thursday. He had been trying unsuccessfully to reach you and called me. He was concerned about the water wells and the elevated TDS seen in them. They were still waiting for sample results. I may want you to see about getting a sample of the wells and getting it to OK State lab for same analysis we ran on creek and UIC wells. Need to get approvals here first.

From: Sanborn, Kent
Sent: Monday, November 07, 2016 8:39 AM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: FW: Bird Creek

From: Eckhart, Jeanne
Sent: Monday, November 07, 2016 8:33 AM
To: Sanborn, Kent <Sanborn.Kent@epa.gov>
Subject: RE: Bird Creek

No, I'm not officially the lead right now. I think you inform Willie at this time.

From: Sanborn, Kent
Sent: Monday, November 07, 2016 8:29 AM
To: Eckhart, Jeanne <Eckhart.Jeanne@epa.gov>
Subject: Bird Creek

Are you officially the lead on the Bird Creek project.? If so RD Farr would like a call back. I believe you have his number.

Eckhart, Jeanne

From: Lane, Willie
Sent: Thursday, September 22, 2016 9:27 AM
To: Sanborn, Kent
Subject: Re: Brine spill on North Bird Creek

In a word, no. They still have some post-processing to do. We may look at sampling next, but we need to talk about it more.

Sent from my iPhone

On Sep 22, 2016, at 8:35 AM, Sanborn, Kent <Sanborn.Kent@epa.gov> wrote:

Willie did Chris and Carl come up with anything on their trip to Bird Creek.?

From: Bersche, Mark D. [<mailto:Mark.Bersche@deq.ok.gov>]
Sent: Wednesday, September 21, 2016 4:30 PM
To: Sanborn, Kent <Sanborn.Kent@epa.gov>
Cc: Bill Bruce (william539@SBCglobal.net) <william539@SBCglobal.net>; Mike McCartney - Town of Pawhuska (mmccartney@pawhuska.org) <mmccartney@pawhuska.org>
Subject: Brine spill on North Bird Creek

Hello Kent,
Any update on the injection well integrity test and/or movement of the brine further downstream?
Thanks
Mark

Eckhart, Jeanne

From: Lane, Willie
Sent: Tuesday, November 08, 2016 3:20 PM
To: Eckhart, Jeanne
Subject: RE: Can you locate coord on a map for me.

Thanks

From: Eckhart, Jeanne
Sent: Tuesday, November 08, 2016 2:56 PM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: RE: Can you locate coord on a map for me.

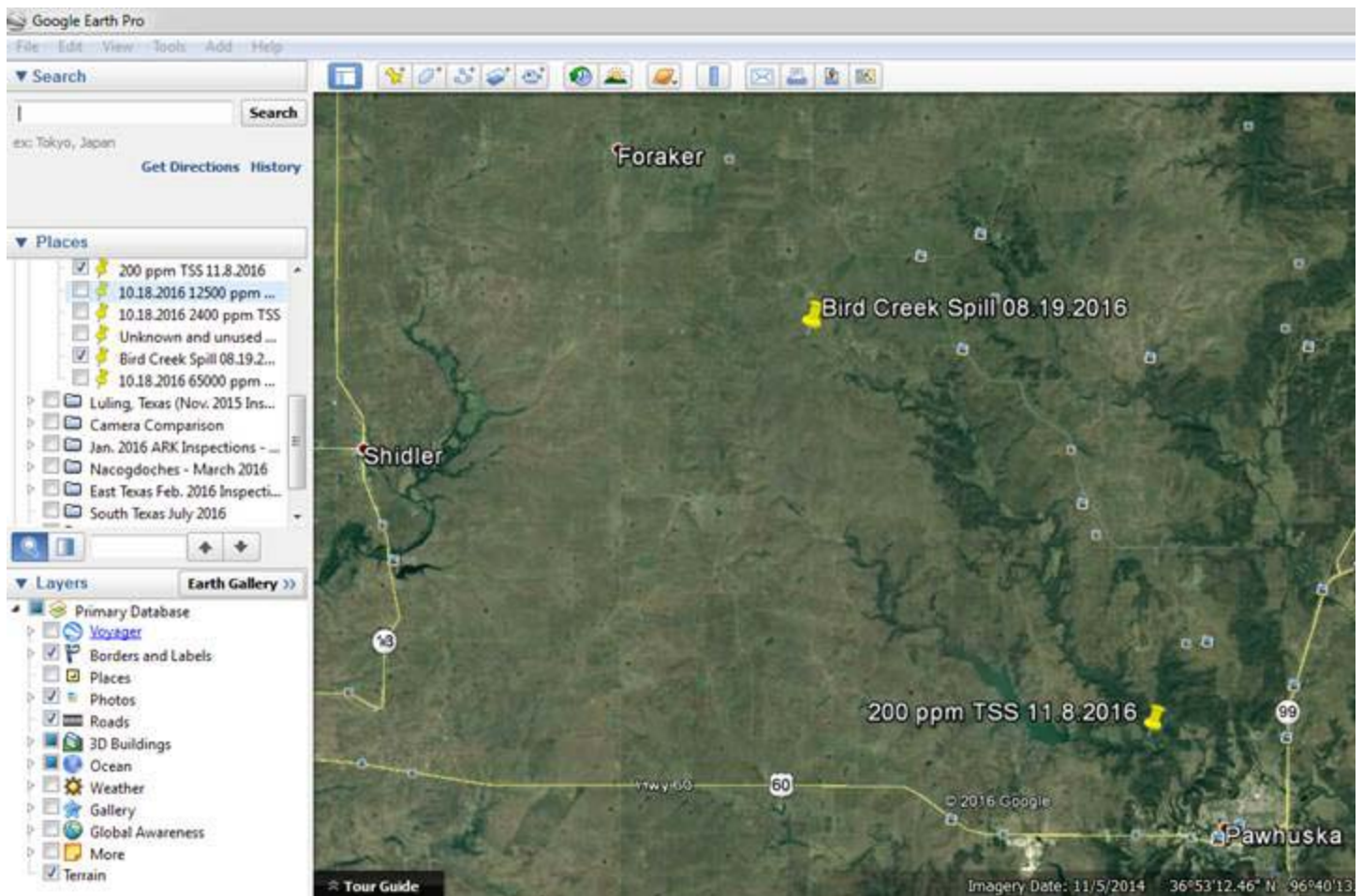
Willie,

Here it is in google maps:

<https://www.google.com/maps/place/36%C2%B041'42.5%22N+96%C2%B021'57.9%22W/@36.695135,-96.3682587,17z/data=!3m1!4b1!4m5!3m4!1s0x0:0x0!8m2!3d36.695135!4d-96.36607>

OR,

The google earth image below.



From: Lane, Willie

Sent: Tuesday, November 08, 2016 2:48 PM

To: Eckhart, Jeanne <Eckhart.Jeanne@epa.gov>

Subject: Can you locate coord on a map for me.

Bird Creek at 36.695135, 96.366070 is 200 ppm

Sent from my iPhone

Eckhart, Jeanne

From: Lane, Willie
Sent: Tuesday, November 15, 2016 4:18 PM
To: 'Jann Hayman'
Subject: RE: Conference Call for Update on Bird Creek Contamination

Jann did you get the invite I sent in the las 15 minutes? I used same email structure to send to Andrew and Berly, but theirs bounced back to me. But yours did not. Can you send me their email addresses?

From: Jann Hayman [mailto:jannhayman@osagenation-nsn.gov]
Sent: Tuesday, November 15, 2016 12:44 PM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: RE: Conference Call for Update on Bird Creek Contamination

The attendees will be:

Osage Nation – Andrew Yates, Beverly LaCrone, Jann Hayman
BIA – Richard Winlock, Robin Phillips, Lee Burnett

Let me know if you need additional information. Thank you!

Jann

From: Lane, Willie [mailto:Lane.Willie@epa.gov]
Sent: Tuesday, November 15, 2016 12:38 PM
To: Jann Hayman
Subject: RE: Conference Call for Update on Bird Creek Contamination

Yes I can set up a line if you will send me the list of attendees.

From: Jann Hayman [mailto:jannhayman@osagenation-nsn.gov]
Sent: Tuesday, November 15, 2016 12:30 PM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: RE: Conference Call for Update on Bird Creek Contamination

Let's do Monday at 8:30, if that works for you. I wouldn't imagine that a call would take very long. Do you have a conference line that we could use?

From: Lane, Willie [mailto:Lane.Willie@epa.gov]
Sent: Tuesday, November 15, 2016 12:12 PM
To: Jann Hayman
Subject: RE: Conference Call for Update on Bird Creek Contamination

Hi Jann my available times for mornings next week are:

| | |
|------------------|---------------|
| Monday, 11/21 | 8-9:30 AM |
| Tuesday, 11/22 | 10 – 11:30 AM |
| Wednesday, 11/23 | 10 – 11:30 AM |

From: Jann Hayman [<mailto:jannhayman@osagenation-nsn.gov>]
Sent: Tuesday, November 15, 2016 9:15 AM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: RE: Conference Call for Update on Bird Creek Contamination

Thank you for your response. Would one morning next week work for you? I will coordinate with BIA Osage Agency and let them know when the call is scheduled. Thank you!

Jann

From: Lane, Willie [<mailto:Lane.Willie@epa.gov>]
Sent: Monday, November 14, 2016 3:23 PM
To: Jann Hayman
Subject: RE: Conference Call for Update on Bird Creek Contamination

Sorry I am late in responding. Yes we would be willing to participate in a call regarding this issue. I am in this week and next week on Monday thru Wednesday.

From: Jann Hayman [<mailto:jannhayman@osagenation-nsn.gov>]
Sent: Wednesday, November 09, 2016 10:44 AM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: Conference Call for Update on Bird Creek Contamination

Good morning Willie,

I spoke with BIA this morning at the Osage Agency. I thought a call to bring everyone together and make sure everyone is on the same page with the potential contamination on Bird Creek would be beneficial. There is a lot of chatter going on in the County, so making sure everyone has the same information would be beneficial. Would you and your team be available sometime next week for a call? Thank you for your time and I look forward to talking with you soon.

Jann S. Hayman
Director
Osage Nation ENR Department
100 West Main, Suite 304
Pawhuska, Oklahoma 74056
Office: 918.287.5531
Fax: 918.287.5581
Email: jannhayman@osagenation-nsn.gov

Eckhart, Jeanne

From: Lane, Willie
Sent: Tuesday, November 08, 2016 9:09 AM
To: Eckhart, Jeanne
Cc: Sanborn, Kent
Subject: RE: Saltwater in Bird Creek, Osage County

No, this is getting complicated quickl. Everything needs to go through me. I will call Jann.

From: Eckhart, Jeanne
Sent: Monday, November 07, 2016 3:45 PM
To: Lane, Willie <Lane.Willie@epa.gov>
Cc: Sanborn, Kent <Sanborn.Kent@epa.gov>
Subject: RE: Saltwater in Bird Creek, Osage County

Willie,

Please let us know if you need Kent or me to follow up with the Osage nation ENR Department.

Thanks,

Jeanne Eckhart
Environmental Scientist
Water Resources Section, Enforcement Division
Region 6, U.S. EPA
Office: (214) 665 – 8174
Fax: (214) 665 – 2168

From: Moore, Jessica
Sent: Monday, November 07, 2016 3:28 PM
To: Lane, Willie <Lane.Willie@epa.gov>; Eckhart, Jeanne <Eckhart.Jeanne@epa.gov>
Subject: FW: Saltwater in Bird Creek, Osage County

Please disregard previous comment. I suppose they have not been directly involved up until now. I was thinking of the BIA.

Thanks,
Jessica

From: Jann Hayman [<mailto:jannhayman@osagenation-nsn.gov>]
Sent: Monday, November 07, 2016 3:24 PM
To: Aguinaga, David <Aguinaga.David@epa.gov>; Moore, Jessica <Moore.Jessica@epa.gov>
Subject: Saltwater in Bird Creek, Osage County

Good afternoon,

I wasn't sure who to contact, so I thought I'd try you first. We have been aware of a potential saltwater contamination in Bird Creek north of Pawhuska, Osage County. I have been asked by Chief to follow up and see if there is any information available on if the source of that contamination has been found. I appreciate any information you have. I apologize that I don't have much more information than this. Thank you!

Jann S. Hayman

Director

Osage Nation ENR Department

100 West Main, Suite 304

Pawhuska, Oklahoma 74056

Office: 918.287.5531

Fax: 918.287.5581

Email: jannhayman@osagenation-nsn.gov

Eckhart, Jeanne

From: Lane, Willie
Sent: Tuesday, November 15, 2016 4:31 PM
To: Moore, Jessica; Aguinaga, David
Subject: RE: Thursday's Meeting

We can move it up as early you feel is necessary. I need to leave the office that day at 10:30 AM so I cannot slide the Bird Creek meeting.

From: Moore, Jessica
Sent: Tuesday, November 15, 2016 4:02 PM
To: Lane, Willie <Lane.Willie@epa.gov>
Subject: Thursday's Meeting

Willie-

You and I have the bird creek meeting at 10 on Thursday. Let me know what you would like to do. I can be here easily by 8:30 if we want to move the section meeting earlier or we can see if the Bird Creek meeting can be shifted a bit later or both.

Thanks,

Jessica Moore
U.S. Environmental Protection Agency
Water Enforcement Branch (6EN-WR)
1445 Ross Avenue, Suite 1200
Dallas, Texas 75202
Office: 214.665.6495

Eckhart, Jeanne

From: Biehl, William "Bill" <WBiehl@BassPet.Com>
Sent: Monday, October 03, 2016 9:28 AM
To: Lane, Willie
Subject: RE: Update on Geophysical Assessment

Thank you for your response, Willie. Please let me know if any information or field verification is needed that we can assist with.

On a related note, R.D. Farr was told by the BIA in Pawhuska on Friday that USEPA would be in the area on Wednesday to follow-up with Jireh and Warren Resources. We were wondering if any access was needed on the ranch and just wanted to confirm with you if this was indeed the case.

Again, thank you for getting back with us.

Bill Biehl

From: Lane, Willie [mailto:Lane.Willie@epa.gov]
Sent: Monday, October 03, 2016 9:23 AM
To: Biehl, William "Bill"
Subject: RE: Update on Geophysical Assessment

Good morning Bill. Sorry I have not responded sooner, but was waiting in hopes I might have something more definitive to report. In your note you referred to my staff digging some holes which they did, but they also did much more. Numerous lines were "shot" using the ohm-mapper device. We are still in post processing of the data collected. We are sending some of our data to the tech support group to help confirm our results. I would hope to have something to report in a few weeks. We are also obtaining resources needed to do some exploratory sampling to see if it yields any additional information. We have certainly not forgotten or abandoned pursuit of finding the cause of this incident.

From: Biehl, William "Bill" [mailto:WBiehl@BassPet.Com]
Sent: Tuesday, September 27, 2016 10:34 AM
To: Lane, Willie <Lane.Willie@epa.gov>; Sanborn, Kent <Sanborn.Kent@epa.gov>
Subject: Update on Geophysical Assessment

Mr. Lane:

Good morning! I hope you are as glad to see the cooler weather as I am.

I sent myself a reminder to follow up with you on any preliminary results from the geophysical survey if I had not heard anything. I was wondering where things stand with regard to the creek contamination on the Chapman Ranch and what plans EPA Region 6 has to further assess / remediate the problem. I was kept posted as to the field progress by our ranch foreman and was admittedly concerned when anomalies were investigated with only a shovel. It has been my experience that sources (especially cutoff wellheads) are often well below 3-4 feet, so I am concerned about anomalies being discarded after using only a shovel.

It remains our contention that this is the jurisdiction of US EPA Region 6 since there was a release to surface waters and direction needs to come from USEPA. In our field meeting, BIA offered nothing to the discussion unless asked by Kent and seemed to defer any decision or direction to the US EPA. Needless to say, this problem has not gone away and

remains a concern of the ranch owner, as well as neighboring ranches. We even received word that the ODEQ notified the City Manager of the City of Pawhuska water plant of contamination in the creek. Based on conversation, it is also concerning to the city's water treatment facility.

I realize that the recent earthquake issue in Oklahoma has put a strain on local manpower and focus, but I want to make an effort to ensure that this issue is not ignored and that efforts are on-going. Any information that can be shared would be most appreciated.

Bill Biehl, PG

EH&S Manager

201 Main Street, Suite 3100 | Fort Worth, TX 76102

O: 817.390.8823 | C: 817.821.8016

wbiehl@basspet.com

Eckhart, Jeanne

From: Biehl, William "Bill" <WBiehl@BassPet.Com>
Sent: Monday, October 03, 2016 9:37 AM
To: Lane, Willie
Subject: RE: Update on Geophysical Assessment

One more follow-up:

As the assessment progresses, especially if we are looking at multiple weeks, can any cooperative agreement be established to have the operators in the area pump out the standing pools nearest the source area to minimize continued migration downstream? Our independent analytical sampling turned up 53,000 ppm total chlorides some 2 weeks after the initial discovery. FYI - ODEQ has also been on-site this past week to assess the issue as a potential threat to Pawhuska's water supply.

Bill

From: Lane, Willie [mailto:Lane.Willie@epa.gov]
Sent: Monday, October 03, 2016 9:23 AM
To: Biehl, William "Bill"
Subject: RE: Update on Geophysical Assessment

Good morning Bill. Sorry I have not responded sooner, but was waiting in hopes I might have something more definitive to report. In your note you referred to my staff digging some holes which they did, but they also did much more. Numerous lines were "shot" using the ohm-mapper device. We are still in post processing of the data collected. We are sending some of our data to the tech support group to help confirm our results. I would hope to have something to report in a few weeks. We are also obtaining resources needed to do some exploratory sampling to see if it yields any additional information. We have certainly not forgotten or abandoned pursuit of finding the cause of this incident.

From: Biehl, William "Bill" [mailto:WBiehl@BassPet.Com]
Sent: Tuesday, September 27, 2016 10:34 AM
To: Lane, Willie <Lane.Willie@epa.gov>; Sanborn, Kent <Sanborn.Kent@epa.gov>
Subject: Update on Geophysical Assessment

Mr. Lane:

Good morning! I hope you are as glad to see the cooler weather as I am.

I sent myself a reminder to follow up with you on any preliminary results from the geophysical survey if I had not heard anything. I was wondering where things stand with regard to the creek contamination on the Chapman Ranch and what plans EPA Region 6 has to further assess / remediate the problem. I was kept posted as to the field progress by our ranch foreman and was admittedly concerned when anomalies were investigated with only a shovel. It has been my experience that sources (especially cutoff wellheads) are often well below 3-4 feet, so I am concerned about anomalies being discarded after using only a shovel.

It remains our contention that this is the jurisdiction of US EPA Region 6 since there was a release to surface waters and direction needs to come from USEPA. In our field meeting, BIA offered nothing to the discussion unless asked by Kent and seemed to defer any decision or direction to the US EPA. Needless to say, this problem has not gone away and remains a concern of the ranch owner, as well as neighboring ranches. We even received word that the ODEQ notified

(918) 847-2916

(918) 287-7300 cell

(918) 847-2654 fax

Eckhart, Jeanne

From: Aguinaga, David
Sent: Wednesday, September 07, 2016 2:17 PM
To: Wills, Carl; Lane, Willie; Lister, Chris; Moore, Jessica
Subject: Something interesting- Bird Creek plume Pawnee correlation?

Four injection wells located in T26N, R07E are in the upper reaches of Bird Creek. (b) (5)

OS6073

OS6282

OS6361

OS6233

Only OS6282 failed an MIT on 2/09/16. Not saying it is the culprit of the Bird Creek brine plume. Just some information.

Thanks For Your Support-

David Aguinaga

U.S. Environmental Protection Agency

Water Enforcement Branch (6EN-WR)

Dallas, Texas 75202

Office: 214.665.6439

Confidentiality Warning:

This e-mail may be privileged and/or confidential, and the sender does not waive any related rights and obligations. It is intended for the named recipient(s) only. Any distribution, use or copying of this e-mail or the information it contains by other than an intended recipient is unauthorized. If you received this e-mail in error, please advise me (by return e-mail or otherwise) immediately and do not duplicate it or disclose its contents to anyone.

Eckhart, Jeanne

From: Lane, Willie
Sent: Wednesday, November 02, 2016 4:22 PM
To: Eckhart, Jeanne
Subject: Tentative: Bird Creek Inspections (Osage County) Strategy Meeting

Eckhart, Jeanne

From: Lane, Willie
Sent: Thursday, September 29, 2016 10:17 AM
To: Davis, Rickey; Sanborn, Kent
Subject: Trip to Tulsa

We (Jessica Moore and I) will be driving up Monday and should be there by 2PM or so. I will meet you at the office downtown or anywhere else if you just give me a location. On Tuesday morning at 9 AM we are meeting with Jann Hayman and staff in Pawhuska and then at 1:30 PM we will meet with BIA also in Pawhuska. If you want to join us for either of these two meetings let me know. Kent, on Wednesday morning before we head back to Dallas I would like to go out to the Bird Creek site. I will have sampling bottles with me. We are working on getting approval for laboratory analyses at OSU. If we get that approved by Wednesday we can collect samples and I would ask you to run them down to OSU.

Eckhart, Jeanne

From: Biehl, William "Bill" <WBiehl@BassPet.Com>
Sent: Tuesday, September 27, 2016 10:34 AM
To: Lane, Willie; Sanborn, Kent
Subject: Update on Geophysical Assessment

Mr. Lane:

Good morning! I hope you are as glad to see the cooler weather as I am.

I sent myself a reminder to follow up with you on any preliminary results from the geophysical survey if I had not heard anything. I was wondering where things stand with regard to the creek contamination on the Chapman Ranch and what plans EPA Region 6 has to further assess / remediate the problem. I was kept posted as to the field progress by our ranch foreman and was admittedly concerned when anomalies were investigated with only a shovel. It has been my experience that sources (especially cutoff wellheads) are often well below 3-4 feet, so I am concerned about anomalies being discarded after using only a shovel.

It remains our contention that this is the jurisdiction of US EPA Region 6 since there was a release to surface waters and direction needs to come from USEPA. In our field meeting, BIA offered nothing to the discussion unless asked by Kent and seemed to defer any decision or direction to the US EPA. Needless to say, this problem has not gone away and remains a concern of the ranch owner, as well as neighboring ranches. We even received word that the ODEQ notified the City Manager of the City of Pawhuska water plant of contamination in the creek. Based on conversation, it is also concerning to the city's water treatment facility.

I realize that the recent earthquake issue in Oklahoma has put a strain on local manpower and focus, but I want to make an effort to ensure that this issue is not ignored and that efforts are on-going. Any information that can be shared would be most appreciated.

Bill Biehl, PG

EH&S Manager

201 Main Street, Suite 3100 | Fort Worth, TX 76102

O: 817.390.8823 | C: 817.821.8016

wbiehl@basspet.com

From: [Biehl, William "Bill"](#)
To: [Lane, Willie](#)
Subject: Update on Geophysical Survey
Date: Thursday, September 08, 2016 9:18:34 PM

Mr. Lane:

Good morning. Following up to our phone call of last week, you mentioned that there was a possibility that the geophysical crew may be able to begin work at the Chapman Ranch creek site in Osage County, OK. I was just checking in to see if a schedule has been finalized?

Thank you!

Bill Biehl, PG

Sr. EH&S

BOPCO, L.P.

201 Main Street, Suite 3100 | Fort Worth, TX 76102

O: [817.390.8823](tel:817.390.8823) | C: [817.821.8016](tel:817.821.8016)

wbiehl@basspet.com